IREG (explosion simulator) for the TS1000

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The ZX-81 manual (p124) and the TS1000 manual (p123) state that, upon return from a machine code routine, the I-register must have the value 1EH. However, it can be a lot of fun to "break the law." The I register points to the upper byte of the character pattern table in the ROM. If we change it, the character set changes to somewhat random hash. This can produce useful video effects.

With the program IREG in memory (actually, just the 1 REM statement) we can set a BASIC variable (also called IREG) equal to what we want in the I register, (~~acceptable~~ useful values range from 0 to 31). By doing a RAND USR 16514, the I register is changed.

If changed quickly, it gives the illusion of fast motion and chaos on the screen. It makes an excellent explosion effect, in a game. Changed slowly, between the normal value of 30 and some other value, the screen will periodically become readable and unreadable. this is an effective "attention getter".

The enclosed program contains the IREG program in a 1 REM statement, a set of additional REM's that contain the source code, and a short BASIC program to demonstrate an "explosion". This may be viewed by simply RUNning the program. Once this is done, all lines except the 1 REM may be deleted, and some other BASIC program added to it.

A machine code program to change the I-register can be made shorter, but not as easy to use. The use of a BASIC variable eliminates the need to remember a POKE address, and, hopefully, the standard USR 16514 address will also be easily recalled. Hopefully, the name IREG is unusual enough that it won't already be ~~used~~ taken in the user's program.

If it is, or we'd like another name for the variable, we can POKE it into the REM statement once, after which it's changed permanently. The name may be from one to four characters long, and starts at 16547. After the last character of the name, we must put a "+" character.

Suppose, for example, we'd like to change the variable name to BANG. We would,

```
POKE 16547, CODE "B"
POKE 16548, CODE "A"
POKE 16549, CODE "N"
POKE 16550, CODE "G"
POKE 16551, CODE "+"
```

That's all there is to it. If we wanted a name shorter than four letters, say, X, we would,

```
POKE 16547, CODE "X"
POKE 16548, CODE "+"
```

And we're done. In the first case, the value of BANG would have been placed in the I register, upon execution of RAND USR 16514, and in the second case, the value of X would go there.

Don't forget to place a 30 in the I register when you're done "exploding", or you won't be able to make any sense of the screen!